

# SEQUENCE LISTING

<110> Pavan, William J.  
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The Government of the United States of America  
as represented by The Secretary of the  
Department of Health and Human Services

<120> Alteration of RAB38 Function to Modulate Mammalian  
Pigmentation

<130> 015280-148100US

<140> US 10/501,611  
<141> 2004-07-14

<150> US 60/349,929  
<151> 2002-01-18

<150> WO PCT/US03/01622  
<151> 2003-01-17

<160> 28

<170> PatentIn Ver. 2.1

<210> 1  
<211> 8  
<212> DNA  
<213> Mus musculus

<220>  
<223> Rab38 sequence of wildtype allele in C57Bl6/J +/+  
DNA

<400> 1  
ctgggtgt 8

<210> 2  
<211> 8  
<212> DNA  
<213> Mus musculus

<220>  
<223> Rab38 sequence of chocolate (cht) mutant allele in  
c57Bl6/J Rab38cht/+ DNA

<400> 2  
ctggktgt 8

<210> 3  
<211> 34  
<212> PRT  
<213> Homo sapiens

<220>  
<223> human RAB38 highly conserved N-terminal region

<400> 3  
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           1                  5                  10                  15

Asp Leu Gly Val Gly Lys Thr Ser Ile Ile Lys Arg Tyr Val His Gln  
                   20                  25                  30

Asn Phe

<210> 4  
 <211> 34  
 <212> PRT  
 <213> Rattus norvegicus

<220>  
 <223> rat RAB38 highly conserved N-terminal region

<400> 4  
 Met Gln Thr Pro His Lys Glu His Leu Tyr Lys Leu Leu Val Ile Gly  
           1                  5                  10                  15

Asp Leu Gly Val Gly Lys Thr Ser Ile Ile Lys Arg Tyr Val His Gln  
                   20                  25                  30

Asn Phe

<210> 5  
 <211> 34  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> mouse RAB38 highly conserved N-terminal region

<400> 5  
 Met Gln Thr Pro His Lys Glu His Leu Tyr Lys Leu Leu Val Ile Gly  
           1                  5                  10                  15

Asp Leu Gly Val Gly Lys Thr Ser Ile Ile Lys Arg Tyr Val His Gln  
                   20                  25                  30

Asn Phe

<210> 6  
 <211> 47  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> human RAB3a N-terminal region

<400> 6  
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Gln Asn Phe Asp Tyr Met Phe Lys Ile Leu Ile Ile Gly Asn Ser Ser  
                   20                  25                  30

Val Gly Lys Thr Ser Phe Leu Phe Arg Tyr Ala Asp Asp Ser Phe  
 35 40 45

<210> 7  
 <211> 45  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> human RAB5 N-terminal region

<400> 7  
 Met Ala Ser Arg Gly Ala Thr Arg Pro Asn Gly Pro Asn Thr Gly Asn  
 1 5 10 15

Lys Ile Cys Gln Phe Lys Leu Val Leu Leu Gly Glu Ser Ala Val Gly  
 20 25 30

Lys Ser Ser Leu Val Leu Arg Phe Val Lys Gly Gln Phe  
 35 40 45

<210> 8  
 <211> 28  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> human N-RAS N-terminal region

<400> 8  
 Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Gly Gly Val Gly Lys  
 1 5 10 15

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe  
 20 25

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 <212> DNA  
 <213> Homo sapiens

<220>  
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 agctgctggt gatcggcgac ctgggtgtgg gcaagaccag cattatcaag cgctatgtgc 180  
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 tccactggga cccagagacg gtggtgcgct tgcagctctg ggacattgct ggtcaagaaa 300  
 gatttggaat catgacaaga gtttattacc ggggaagctat gggggcattt attgtttttg 360  
 atgtcaccag accagccaca tttgaagccg tggcaaaagt gaaaaatgat ttggactcaa 420  
 agttaacgct ccctaattggt aagccagtgt cagtgggtct gttggccaac aaatgtgacc 480  
 aagggaagga tgtgcttatg aacaatggac tcaagatgga ccagttctgc aaggagcatg 540  
 gcttcgtagg atggtttgaa acatcagcca aggaaaacat aaacattgat gaagcctcaa 600  
 gatgcctggt caagcacata cttgcaaatg agtgtgacct cctagagtct atagaaccgg 660  
 acattgtgaa gcccatctc acatcgcccc aggttgtcag ctgctctggc tgtgccccaa 720  
 cctagaaggc tcctctgctg gcatatgaca gacagaaccc gtggccctca tgaatcgtgc 780

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ttcagttttt ccttattacc attttgggta agcgtcagga tagggaagca catgtgacaa 840
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ttctttcagc ttctcttgac tcaagctgca ggactcttct gtatgtggaa gatattat 1380
atatattttt cacaagtga aaataaaaaca ttaaaaatgc tgtttccctg tttctgata 1439

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<210> 10  
 <211> 291  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Rab38 exon 1 and surrounding intron sequence

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<400> 10
acatagagct ccgggaaacg tcgggtgccca gcccgggctg tgcttcccag agcaagctcc 60
aggctccgca agaccgcggy gcctccagga tgcagacacc tcacaaggag cacctgtaca 120
agctgctggg gatcggcgac ctgggtgtgg gcaagaccag cattatcaag cgctatgtgc 180
acaaaaactt ctctcgcac taccgggcca ccattgggtg ggacttcgcy ctgaagggtc 240
tccactggga cccagagacy gtgggtgcgt tgcagctctg ggacattgct g 291

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<210> 11  
 <211> 281  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Rab38 exon 2

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<400> 11
gtcaagaaag atttggaaac atgacaagag tttattaccg ggaagctatg ggggcattta 60
ttgtttttga tgtcaccaga ccagccacat ttgaagccgt ggcaaagtgg aaaaatgatt 120
tggactcaaa gttaacgctc cctaattgga agccagtgtc agtggttctg ttggccaaca 180
aatgtgacca agggaaggat gtgcttatga acaatggact caagatggac cagttctgca 240
aggagcatgg ctccgtagga tggtttgaaa catcagccaa g 281

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<210> 12  
 <211> 868  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Rab38 exon 3 and surrounding intron sequence

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<400> 12
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gtgtgacctc ctagagtcta tagaaccgga cattgtgaag ccccatctca catcgcccaa 120
ggttgtcagc tgctctggct gtgccaaatc ctagaaggct cctctgctgg catatgacag 180
acagaacccg tggccctcat gaatcgtgct tcagtttttc cttattacca ttttgggtaa 240
gcgtcaggat aggggaagcac atgtgacaag ccaaagatac atgactgtat ggttccctgc 300
aaagaggaac agcaaatgtt ctttatgtgt tttcccaccc catcagcaca gtgtttacaa 360
gcttttataa tattagtctg tcacaatatg ctgtttttatc attgagcaaa gccactcagg 420

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gacacagaca gccctaatat ttgttccttt aaatcaacaa aggccttctgg tcttcttgag 480
aaggggaata acagagcaag gcagaggtca agctaagtgt ggggatttgt cttgccctgg 540
tgtgtctttg ttcaggtatc aatttggtcc cgggtggtct gataggtcta ttaaatagaa 600
accattcatg gtagacctaa gggttgkctg tgatgtttct cttcagagtc gtgtgcacag 660
gcagcctggg cttttgttgt cacttgctgt gccctgaatg ctggtttaac tgaaaactgt 720
atggaaagat ctgctccctg tatgtgcctt tctttcagct tcctctgact caagctgcag 780
gactcttctg tatgtggaag atatattata tatatttttc acaagtgaaa aataaaacat 840
taaaaatgct gtttccctgt ttctgata 868

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<210> 13
<211> 45
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:synthetic TYRP15'T3F DNA

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<400> 13
gcgcgaatta accctcacta aagggtctga gcacccctgt cttct 45

```

```

<210> 14
<211> 45
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence:synthetic TYRP15'T7R DNA

```

```

<400> 14
gcgcgtaata cgactcacta tagggcccag ttgcaaaatt ccagt 45

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```

<210> 15
<211> 47
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:synthetic MLSN R T7 DNA

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```

<400> 15
gcgggtaata cgactcacta taggggccac aaacatgtcc tacttac 47

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```

<210> 16
<211> 44
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:synthetic MLSN FT3 DNA

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<400> 16
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<210> 17  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR  
         amplification primer Rab38 Ex1F  
  
 <400> 17  
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 <210> 18  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR  
         amplification primer Rab38 Ex 1R  
  
 <400> 18  
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 <210> 19  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR  
         amplification primer Rab38 Ex2F  
  
 <400> 19  
 ggatatgaag ctccagtgtgta gtgtac 26  
  
 <210> 20  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR  
         amplification primer Rab38 Ex2R  
  
 <400> 20  
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 <210> 21  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:PCR  
         amplification primer Rab38 Ex3F

<400> 21  
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<210> 22  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:PCR  
 amplification primer Rab38 Ex3R

<400> 22  
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<210> 23  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:amplification  
 primer cht Ex1F

<400> 23  
 ggcctccagg atgcagacac c 21

<210> 24  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:amplification  
 primer cht Ex1R

<400> 24  
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<210> 25  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:PCR  
 amplification att site linker primer AttB1-RRab

<400> 25  
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<210> 26  
 <211> 51  
 <212> DNA  
 <213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:PCR
      amplification att site linker primer
      AttB2-RRab-STP

<400> 26
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<210> 27
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
      complementary to segment of RAB38 mRNA translation
      initiation codon

<400> 27
aacgttgagg ggcac          15

<210> 28
<211> 1412
<212> DNA
<213> Homo sapiens

<220>
<223> human RAB38 DNA sequence

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